

$$\varphi(v_R) = \frac{\pi}{6} + \frac{\pi}{2} - \text{Arctan } RC\omega$$

$$= \frac{\pi}{6} + \frac{\pi}{2} - \text{Arctan}(10^2 \cdot 10^{-5} \cdot 5 \cdot 10^3)$$

$$= \frac{\pi}{6} + \frac{\pi}{2} - \text{Arctan } 5$$

$$= 30 + 90 - 79,6$$

$$= 41^\circ$$